

**Vascular Access and Closure****Moscone West, 1st Floor****Tuesday, October 29, 2013, 3:30 PM–5:30 PM**

Abstract nos: 265-302

**TCT-265****Switching from femoral to radial access is associated with reduced PCI mortality and morbidity**

Nikil K. Rajani<sup>1</sup>, Adam J. Brown<sup>1</sup>, Liam M. McCormick<sup>1</sup>, Anmol Kaushal<sup>1</sup>, Hammad Parwaiz<sup>1</sup>, Mark Harris<sup>1</sup>, Stephen P. Hoole<sup>1</sup>, Nick E. West<sup>1</sup>  
<sup>1</sup>Papworth Hospital, Cambridge, United Kingdom

**Background:** Transradial (TR) percutaneous coronary intervention (PCI) reduces bleeding complications compared with transfemoral access (TF). However, operator switch from TF to TR access is associated with a significant learning curve. Concerns therefore remain as to whether this observed benefit translates into real world practice. We sought to ascertain whether instituting TR access would impact on bleeding complications and mortality.

**Methods:** Patients undergoing PCI at a single centre over 4 years from 2008-11 had procedural data collected prospectively. Interventional strategy and adjunctive therapy were left to the discretion of the operator. Post procedural complications and survival were identified from local and regional databases. Bleeding complications were categorized using Bleeding Academic Research Consortium (BARC) definitions.

**Results:** 8166 consecutive patients (mean age 64.8±11.5 yrs, 76.2% male) were included in the analysis. Rate of TR PCI increased from 2.0% to 42.7% over 4 years. 3.6% of TR cases required conversion to TF approach. Patients undergoing TR PCI were more likely to be male (78.9% vs. 75.7%, p=0.01), smokers (45.4% vs. 41.1%, p=0.004) and overweight (BMI 29.4 vs. 28.2, p<0.001), but less likely to have had previous CABG (4.7% vs. 8.6%, p<0.001) when compared to those undergoing TF PCI. Over 4 years the annual bleeding complication rate fell from 1.64% to 0.95% (p=0.05). TR access was associated with lower rates of BARC 2-5 bleeding compared to TF access (0.30% vs. 1.45%, p<0.001) and lower length of stay (1.57±3.04 vs. 1.79±3.37 days, p=0.017). As rate of TR access increased, a significant improvement in 1-year survival was observed (97.7% TR vs. 96.5% TF, p=0.028), driven predominantly by survival advantage in patients presenting for primary PCI (96.6% TR vs. 92.8% TF, p=0.017; odds ratio 0.45, 95% CI 0.23-0.88, p=0.02).

**Conclusions:** Despite the learning curve, changing from TF to TR access was associated with lower overall bleeding complications and enhanced 1-year survival after PCI.

**TCT-266****A Randomized Comparison of Transradial versus Transfemoral Approach for Coronary Artery Bypass Graft Angiography and Intervention (the RADIAL CABG trial)**

Tesfaldet T. Michael<sup>1</sup>, Shuaib Abdullah<sup>2</sup>, Mohammed E. Alomar<sup>3</sup>, Aristotelis Papayannis<sup>1</sup>, Owen Mogabgab<sup>4</sup>, Vishal G. Patel<sup>4</sup>, Bavana Rangan<sup>5</sup>, Michael Lund<sup>6</sup>, Jeffrey L. Hastings<sup>7</sup>, Jerrold Grodin<sup>8</sup>, Subhash Banerjee<sup>9</sup>, Emmanouil Brilakis<sup>10</sup>

<sup>1</sup>University of Texas Southwestern Medical Center & Dallas VA Medical Center, Dallas, TX, <sup>2</sup>UTSW Medical Center/Dallas VAMC, Dallas, TX, <sup>3</sup>Dallas VA Medical Center, Dallas, TX, <sup>4</sup>University of Texas at Southwestern, Dallas, TX, <sup>5</sup>VA North Texas Healthcare System and UT Southwestern Medical School, Dallas, TX,

<sup>6</sup>University of Texas Southwestern, Dallas, TX, <sup>7</sup>VA North Texas Healthcare System and University of Texas Southwestern Medical Center, Dallas, Texas, Dallas, TX, <sup>8</sup>VA North Texas Healthcare System and University of Texas Southwestern Medical Center, Dallas, Texas, Dallas, TX, <sup>9</sup>UT Southwestern Medical Center and VA North Texas Health Care System, Dallas, TX, Dallas, TX, <sup>10</sup>VA North Texas Healthcare System and UT Southwestern Medical Center, Dallas, TX

**Background:** We sought to compare contrast utilization and radiation exposure using radial vs. femoral access for diagnostic coronary angiography and intervention in patients with prior coronary artery bypass graft surgery (CABG).

**Methods:** Consecutive patients with prior CABG (n=128) referred for cardiac catheterization were randomized to radial or femoral access. The primary study endpoint was contrast volume. Secondary endpoints included fluoroscopy time, procedure time, radiation exposure dose to patients and operators, vascular complications and major adverse cardiac events. Analyses were by intention to treat.

**Results:** Compared to femoral access, diagnostic coronary angiography through radial access was associated with higher mean contrast volume (142 vs. 171 ml, p=0.006), longer procedure (21.9 vs. 34.2 min, p<0.001) and fluoroscopy (8.5 vs. 12.7 min, p<0.001) time, higher patient air kerma radiation exposure (1.08 vs. 1.29

Gray, p=0.056) and higher operator radiation dose (first operator: 1.3 vs. 2.6 mrem, p<0.001; second operator 0.8 vs. 1.8 mrem, p=0.011) (Table 1). Fewer patients underwent ad hoc PCI in the radial group (24 vs. 30, p=0.282) and radial PCI procedures were less complex. The incidence of the primary and secondary endpoints was similar with femoral and radial access among PCI patients. Access cross-over was higher in the radial group (17.2% vs. 0%, p<0.001) and vascular access site complications were similar in both groups (3.1%).

Variables	Radial, n=63	Femoral, n=63	p value
Contrast volume (ml)	171±72	142±39	0.006
Procedure time (min)	34.2±14.7	21.9±6.8	<0.001
Fluoroscopy time (min)	12.7±6.6	8.5±4.7	<0.001
Patient air kerma radiation exposure (Gray)	1.29±0.67	1.08±0.54	0.055
First operator radiation exposure (mrem)	2.6±1.7	0.8±1.1	<0.001
Second operator radiation exposure (mrem)	1.8±2.1	0.8±1.1	0.011
Number of patent grafts	2.2±1.0	2.3±0.9	0.558
Number of diagnostic catheters used	3.3±1.3	2.9±0.7	0.040

**Conclusions:** In prior CABG patients transradial diagnostic coronary angiography was associated with higher contrast utilization, procedure and fluoroscopy time, access crossover and operator radiation exposure compared to transfemoral angiography. (RADIAL Versus Femoral Access for Coronary Artery Bypass Graft Angiography and Intervention (RADIAL CABG) Trial; NCT01446263).

**TCT-267****How We Can Manage of Radial Artery Late Occlusion: Recanalization of Occlusion or "High" Puncture of Radial Artery**

Avtandil M. Babunashvili<sup>1</sup>

<sup>1</sup>Center of Endosurgery, Moscow, Russian Federation

**Background:** Transradial interventions (TRI) are associated with certain risk of radial artery (RA) occlusion, limiting the possibility of re-intervention through the same access site.

**Methods:** In case of late radial/ulnar artery (RA/UA) occlusion if the distal stump was palpable pulse, puncture and cannulation of the postocclusion segment and retrograde RA/UA recanalization and angioplasty was performed using the "Dotter-technique" or plain balloon dilatation or mixed technique. In case of patent preocclusion segment (confirmed by ultrasound) "high" puncture and cannulation under ultrasound guidance of this segment is possible.

**Results:** Recanalization of occluded RA/UA attempted in 61 cases, 49 in chronic total occlusions (CTO) and 12 in subacute RA/UA occlusions. Immediate success was achieved in 52 cases (85.2%): in 41 out of 49 CTO cases (83.7%) and 11 out of 12 cases of subacute occlusion (91.7%). In 24 out of 52 cases of successful recanalization late reocclusions were occurred (46.2%). Of these, 2 patients were subjected to repeat successful recanalization of reoccluded artery. In 4 cases we have successfully performed under ultrasound guidance "high" puncture and catheterization of proximal (preocclusion) segment of radial artery and coronary intervention thereafter. In these cases retrograde recanalization of occluded radial artery was impossible due to lack of collateral pulse on the radial artery stump.

**Conclusions:** Conclusion: Retrograde recanalization of late radial/ulnar artery occlusion for repeat arterial access is technically feasible and safe. Despite the high risk of reocclusion in the long run, this new technique allows to solve the problem of access in cases where no other traditional access sites are available. In case of inability of retrograde recanalization of occluded radial artery (absent of collateral pulse) "high" radial artery puncture under ultrasound guidance is possible in certain anatomic situation.

**TCT-268****Transradial versus transfemoral approach for High-Speed Rotational Atherectomy facilitated Angioplasty**

George Kassimis<sup>1</sup>, Niket Patel<sup>2</sup>, Rajesh Kharbanda<sup>1</sup>, Keith Channon<sup>2</sup>, Adrian Banning<sup>1</sup>

<sup>1</sup>Oxford Heart Center, Oxford, UK, <sup>2</sup>Oxford University Hospitals, Oxford, Oxfordshire

**Background:** This study retrospectively compares in-hospital outcomes for patients undergoing High-Speed Rotational Atherectomy (HSRA) facilitated percutaneous coronary intervention (PCI) using either the radial or femoral artery approach.

**Methods:** From September 2008 to February 2013, 135 consecutive patients (75 femoral, 60 radial) underwent HSRA in our centre. A comparison of in-hospital outcomes was been performed. For radial approach, a 7.5F Sheathless Guiding Catheter (SGC) was used.

**Results:** The sizing of the deployed burrs were similar [1.75 (0.75-2.00) vs 1.75 (1.20-3.00) mm, p=0.68]) with no difference in screening time [15.5 [12.2-19.5] vs 19